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EXAMINER	
ZEWDU, MELESS NMN	

ART UNIT	PAPER NUMBER
2683	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/873,449	FAN, JOHN	
	Examiner	Art Unit	
	Meless N Zewdu	2683	

9/13

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the communication filed on 7/16/04.

2. Claims 1-42 are original claims.

3. Claims 43-45 are newly added claims.

4. Claims 1-45 are pending in this action.

5. This action is final.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 43-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Andrews et al. (Andrews) (US 6,646,615 B12).

As per claim 43: an apparatus comprising:

a receiver, to demodulate signals received via one or more wireless communication channels via an antenna structure reads on '615 (see col. 2, lines 33-37).

an antennae structure, coupled with the receiver, to receive one or more wireless communication channels transmitted from a remote apparatus, the antennae structure including a plurality of electric dipole antennae and a plurality of magnetic dipole antenna, said electric dipole antennae and magnetic dipole antennae organized to form a single antenna structure reads on '615 (see col. 7, lines 12-36; col. 9, lines 6-42). Andrews has disclosed the different polarizations associated with different dipole elements.

As per claim 44: an apparatus, the antennae structure comprising three electric dipole antennae and three magnetic dipole antennae, wherein each of the electric dipole antennae have different polarizations from one another and each of the magnetic dipole antennae have different polarizations from one another, all commonly configured within the single antenna structure reads on '615 (see col. 7, lines 16-18). The phrase, "Need not have" indicates that it can have.

As per claim 45: an apparatus, further comprising a portable energy source, coupled to the receiver, to provide power to enable the receiver to operate reads on '615 (see col. 9, lines 19-28). The batteries, in the communication devices mentioned in the cited section of the prior art, are portable and are inherent to those devices.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rich (5,940,452) in view of Andrews et al. (6,646,615).

Regarding claim 1, Rich discloses a method for wirelessly transmitting data between a base transceiver station and a subscriber unit (abstract, fig. 1), the base transceiver station comprising a plurality of transmit antennae (abstract, #804 and #806 fig. 8), the method comprising:

a) generating control signals (col. 5 lines 17-58) to configure the base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol (col. 5 line 65 thru col. 6 line 40);

b) transmitting in response to the control signals and in a spatially separate fashion (col. 8 lines 27-37, and col. 18 line 56 thru col. 19 line 3), the selected data streams on the assigned channel of the multiple access protocol (col. 5 line 65 thru col. 6 line 40); and

c) utilizing co-located dipole antennae at the subscriber unit to receive the selected data streams (#114, 116 fig. 1). However, Rich does not specifically disclose utilizing electric dipole and magnetic dipole antenna at the subscriber unit.

Andrews et al. teaches utilizing co-located electric dipole and magnetic dipole antenna at the subscriber unit (abstract, col. 9 lines 6-28). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Rich system with the teaching of Andrews et al. of electric and magnetic dipole antennas in order to improve fading performance or to increase the capacity of the communication channel in a scattering environment.

Regarding claim 2, Andrews et al. further discloses the method of claim 1 wherein each electric dipole antennas has a different (multiple) polarization (col. 1 lines 32-40, col. 9 lines 6-28).

Regarding claim 3, Andrews et al. further discloses the method of claim 1 wherein each magnetic dipole antenna has a different polarization (col. 1 lines 32-40, col. 9 lines 6-28).

Regarding claim 4, Andrews et al. further discloses the method of claim 1 wherein the electric dipole antennae comprise 3 electric dipole antennae (col. 4 line 44 thru col. 5 line 13), and the magnetic dipole antennae comprise 3 magnetic dipole antennae (col. 4 line 44 thru col. 5 line 13).

Regarding claim 5, Andrews et al. further discloses the method of claim 4 wherein the 3 electric dipole antennae have 3 different polarizations (col. 4 line 44 thru

col. 5 line 13, and col. 8 lines 6-28) and the 3 magnetic dipole antennae have 3 different polarizations (col. 4 line 44 thru col. 5 line 13, and col. 8 lines 6-28).

Regarding claim 6, Andrews et al. further discloses the method of claim 5 wherein the data streams are transmitted via a scattering channel (abstract).

Regarding claim 7, Rich further discloses the method of claim 1 wherein the subscriber unit comprises a palm sized device (cellular radiotelephone subscriber unit is well known in the art that it is about palm sized) (abstract, #102 fig. 1).

Regarding claim 8, Rich further discloses the method of claim 7, wherein the subscriber unit comprise dipole antenna. However, Rich does not specifically disclose the subscriber unit wherein the electric dipole antennae comprise 3 electric dipole antennae and the magnetic dipole antennae comprise 3 magnetic dipole antennae.

Andrews et al. teaches the subscriber unit wherein the electric dipole antennae comprise 3 electric dipole antennae and the magnetic dipole antennae comprise 3 magnetic dipole antennae (col. 4 line 44 thru col. 5 line 13). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Rich system with the teaching of Andrews et al. of subscriber unit comprise 3 electric and 3 magnetic dipole antennas in order to improve fading performance or to increase the capacity of the communication channel in a scattering environment.

Regarding claim 9, Andrews et al. further discloses the method of claim 8 wherein the 3 electric dipole antennae have 3 different polarizations (col. 4 line 44 thru

col. 5 line 13, and col. 8 lines 6-28) and the 3 magnetic dipole antennae have 3 different polarizations (col. 4 line 44 thru col. 5 line 13, and col. 8 lines 6-28).

Regarding claim 10, Andrews at al. further discloses the method of claim 9 wherein the data streams are transmitted via a scattering channel (abstract).

Regarding claim 11, Rich discloses a method for wirelessly receiving data at a base transceiver station from a subscriber unit (abstract, fig. 1), the base transceiver station comprising a plurality of antennae (#804 and #806 fig. 8), the method comprising:

a) utilizing co-located dipole antenna at the subscriber unit to transmit selected data stream on an assigned channel of the multiple access protocol (col. 5 line 65 thru col. 6 line 40),

b) generating control signals to configure the base transceiver station to receive the selected data streams from the subscriber unit on the assigned channel of a multiple access protocol (col. 5 lines 17-58); and

c) receiving in response to the control signals the selected data streams on the assigned channel of the multiple access protocol (col. 5 line 65 thru col. 6 line 40). However, Rich does not specifically disclose utilizing co-located electric dipole antennae at the subscriber unit.

Andrews et al. teaches utilizing co-located electric dipole antenna at the subscriber unit (abstract, col. 9 lines 6-28). Therefore, it would have been obvious to

one skilled in the art at the time the invention was made to modify Rich system with the teaching of Andrews et al. of electric dipole antennas in order to improve fading performance or to increase the capacity of the communication channel in a scattering environment.

Regarding claim 12, this claim is rejected for the same reason as set forth in claim 2.

Regarding claim 13, this claim is rejected for the same reason as set forth in claim 4.

Regarding claim 14, this claim is rejected for the same reason as set forth in claim 5.

Regarding claim 15, this claim is rejected for the same reason as set forth in claim 6.

Regarding claim 16, this claim is rejected for the same reason as set forth in claim 7.

Regarding claim 17, this claim is rejected for the same reason as set forth in claim 8.

Regarding claim 18, this claim is rejected for the same reason as set forth in claim 9.

Regarding claim 19, this claim is rejected for the same reason as set forth in claim 10.

Regarding claim 20, Rich discloses a system for wirelessly transmitting data between a base transceiver station and a subscriber unit (abstract, fig. 1), the base transceiver station comprising a plurality of transmit antennae (#804 and 806 fig. 8), the system comprising:

a) means for generating control signals to configure the base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol (col. 5 lines 17-58);

b) means for transmitting in response to the control signals and in a spatially separate fashion (abstract, col. 8 lines 27-37, and col. 18 line 56 thru col. 19 line 3), the selected data streams on the assigned channel of the multiple access protocol (col. 5 line 65 thru col. 6 line 40); and

c) means for utilizing co-located dipole antennae at the subscriber unit to receive the selected data streams (#114, 116 fig. 1). However, Rich does not specifically disclose means for utilizing electric dipole and magnetic dipole antenna at the subscriber unit.

Andrews et al. teaches means for utilizing co-located electric dipole and magnetic dipole antenna at the subscriber unit (abstract, col. 9 lines 6-28). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Rich system with the teaching of Andrews et al. of means for electric and

magnetic dipole antennas at the subscriber unit in order to improve fading performance or to increase the capacity of the communication channel in a scattering environment.

Regarding claim 21, this claim is rejected for the same reason as set forth in claim 2.

Regarding claim 22, this claim is rejected for the same reason as set forth in claim 3.

Regarding claim 23, this claim is rejected for the same reason as set forth in claim 4.

Regarding claim 24, this claim is rejected for the same reason as set forth in claim 5.

Regarding claim 25, this claim is rejected for the same reason as set forth in claim 6.

Regarding claim 26, this claim is rejected for the same reason as set forth in claim 7.

Regarding claim 27, this claim is rejected for the same reason as set forth in claim 8.

Regarding claim 28, this claim is rejected for the same reason as set forth in claim 9.

Regarding claim 29, this claim is rejected for the same reason as set forth in claim 10.

Regarding claim 30, Rich discloses a method for wirelessly receiving data at a base transceiver station from a subscriber unit (abstract, fig. 1), the base transceiver station comprising a plurality of antennae (#804 and #806 fig. 8), the method comprising:

a) means for utilizing co-located dipole antenna at the subscriber unit to transmit selected data stream on an assigned channel of the multiple access protocol (col. 5 line 65 thru col. 6 line 40),

b) means for generating control signals to configure the base transceiver station to receive the selected data streams from the subscriber unit on the assigned channel of a multiple access protocol (col. 5 lines 17-58); and

c) means for receiving in response to the control signals the selected data streams on the assigned channel of the multiple access protocol (col. 5 line 65 thru col. 6 line 40).

However, Rich does not specifically disclose means for utilizing co-located electric dipole antennae at the subscriber unit.

Andrews et al. teaches means for utilizing co-located electric dipole antenna at the subscriber unit (abstract, col. 9 lines 6-28). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Rich system with the

teaching of Andrews et al. of means for utilizing co-located electric dipole antennas in order to improve fading performance or to increase the capacity of the communication channel in a scattering environment.

Regarding claim 31, this claim is rejected for the same reason as set forth in claim 2.

Regarding claim 32, this claim is rejected for the same reason as set forth in claim 4.

Regarding claim 33, this claim is rejected for the same reason as set forth in claim 5.

Regarding claim 34, this claim is rejected for the same reason as set forth in claim 6.

Regarding claim 35, this claim is rejected for the same reason as set forth in claim 7.

Regarding claim 36, this claim is rejected for the same reason as set forth in claim 8.

Regarding claim 37, this claim is rejected for the same reason as set forth in claim 9.

Regarding claim 38, this claim is rejected for the same reason as set forth in claim 10.

Regarding claim 39, Rich discloses a method for wirelessly transmitting data between a base transceiver station and a subscriber unit (abstract, fig. 1), the base transceiver station comprising a plurality of transmit antennae (abstract, #804 and #806 fig. 8), the method comprising:

a) generating control signals (col. 5 lines 17-58) to configure the base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol (col. 5 line 65 thru col. 6 line 40);

b) transmitting in response to the control signals and in a spatially separate fashion (col. 8 lines 27-37, and col. 18 line 56 thru col. 19 line 3), the selected data streams on the assigned channel of the multiple access protocol (col. 5 line 65 thru col. 6 line 40); and

c) utilizing 2 antennas (#114, #116 fig. 1) at the subscriber unit to receive the selected data streams wherein the subscriber unit comprises a palm-sized device (#102 fig. 1 is the radio subscriber unit, it is well known in the art that it is about a palm sized) (#102 fig. 1). However, Rich does not specifically disclose utilizing 6 co-located antennae comprise 3 electric dipole antennae and 3 magnetic dipole antennae wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations.

Andrews et al. teaches utilizing 6 co-located antennae at subscriber unit (fig. 2, col. 3 line 62 thru col. 4 line 8) comprise 3 electric dipole antennae (col. 4 line 44 thru col. 5 line 13) and 3 magnetic dipole antennae (col. 4 line 44 thru col. 5 line 13).

wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations (col. 4 line 44 thru col. 5 line 13, and col. 8 lines 6-28). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Rich system with the teaching of Andrews et al. of 6 antennae with 3 electric and 3 magnetic dipole antennas and 3 different polarizations in order to improve fading performance or to increase the capacity of the communication channel in a scattering environment.

Regarding claim 40, Rich disclose a method for wirelessly receiving data at a base transceiver station from a subscriber unit (abstract, fig. 1), the base transceiver station comprising a plurality of antennae (#804 and #806 fig. 8), the method comprising:

a) utilizing 2 co-located dipole antennae at the subscriber unit (#114, and #116 fig. 1) to transmit selected data streams on an assigned channel of a multiple access protocol (col. 5 line 65 thru col. 6 line 40), wherein the subscriber unit comprises a palm-sized device (cellular radiotelephone unit) (abstract, #102 fig. 8);

b) generating control signals to configure the base transceiver station to receive the selected data streams from the subscriber unit on the assigned channel of a multiple access protocol (col. 5 line 17 thru col. 6 line 40); and

c) receiving in response to the control signals the selected data streams on the assigned channel of the multiple access protocol (col. 5 line 65 thru col. 6 line 40). However, Rich does not specifically disclose wherein the assigned channel comprises a

scattering channel, and the 3 co-located antennae comprise 3 electric dipole antennae, wherein the 3 electric dipole antennae have 3 different polarizations.

Andrews et al. teaches wherein the assigned channel comprises a scattering channel (abstract, fig. 3), and the 3 co-located antennae comprise 3 electric dipole antennae, wherein the 3 electric dipole antennae have 3 different polarizations (fig. 4, col. 4 line 44 thru col. 5 line 13, and col. 8 lines 6-28). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Rich system with the teaching of Andrews et al. of 3 co-located antennas with 3 electric dipole antennas have 3 different polarizations in order to improve fading performance or to increase the capacity of the communication channel in a scattering environment.

Regarding claim 41, Rich discloses a system for wirelessly transmitting data between a base transceiver station and a subscriber unit (abstract, fig. 1), the base transceiver station comprising a plurality of transmit antennae (#804 and #806 fig. 8), the system comprising:

a) means for generating control signals to configure the base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol (col. 5 line 17 thru col. 6 line 40), wherein the assigned channel comprises the spread-spectrum multiple-access digital communications that creates channels (col. 6 lines 15-32);

b) means for transmitting in response to the control signals and in a spatially separate fashion (col. 8 lines 27-37, and col. 18 line 56 thru col. 19 line 3), the selected

data streams on the assigned channel of the multiple access protocol (col. 5 line 65 thru col. 6 line 40); and

c) means for utilizing 2 co-located antennae at the subscriber unit (#114, and #116 fig. 1) to receive the selected data streams wherein the subscriber unit comprises a palm-sized device (the cellular radiotelephone unit) (abstract, #102 fig. 1). However, Rich does not specifically disclose the subscriber unit comprise 6 co-located antennae comprise 3 electric dipole antennae and 3 magnetic dipole antennae wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations.

Andrews et al. teaches wherein the assigned channel comprises a scattering channel (abstract) and means for utilizing 6 co-located antennae at subscriber unit (fig. 2, col. 3 line 62 thru col. 4 line 8) comprise 3 electric dipole antennae (col. 4 line 44 thru col. 5 line 13) and 3 magnetic dipole antennae (col. 4 line 44 thru col. 5 line 13). wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations (col. 4 line 44 thru col. 5 line 13, and col. 8 lines 6-28). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Rich system with the teaching of Andrews et al. of scattering channel and means for utilizing 6 antennas with 3 electric and 3 magnetic dipole antennas and 3 different polarizations in order to improve fading performance or to increase the capacity of the communication channel in a scattering environment.

Regarding claim 42, Rich disclose a method for wirelessly receiving data at a base transceiver station from a subscriber unit (abstract, fig. 1), the base transceiver station comprising a plurality of antennae (#804 and #806 fig. 8), the method comprising:

a) means for utilizing 2 co-located dipole antennae at the subscriber unit (#114, and #116 fig. 1) to transmit selected data streams on an assigned channel of a multiple access protocol (col. 5 line 65 thru col. 6 line 40), wherein the assigned channel comprises the spread-spectrum multiple-access digital communications that creates channels (col. 6 lines 15-32) wherein the subscriber unit comprises a palm-sized device (cellular radiotelephone subscriber) (abstract, #102 fig. 1);

b) means for generating control signals to configure the base transceiver station to receive the selected data streams from the subscriber unit on the assigned channel of a multiple access protocol (col. 5 line 17 thru col. 6 line 40); and

c) means for receiving in response to the control signals the selected data streams on the assigned channel of the multiple access protocol (col. 5 line 65 thru col. 6 line 40). However, Rich does not specifically disclose means for utilizing 3 co-located antennae at the subscriber unit comprise 3 electric dipole antennae, wherein the 3 electric dipole antennae have 3 different polarizations.

Andrews et al. teaches wherein the assigned channel comprises a scattering channel (abstract, fig. 3), and the 3 co-located antennae comprise 3 electric dipole antennae, wherein the 3 electric dipole antennae have 3 different polarizations (fig. 4,

col. 4 line 44 thru col. 5 line 13, and col. 8 lines 6-28). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Rich system with the teaching of Andrews et al. of scattering channel and means for utilizing 3 co-located antennas with 3 electric dipole antennas have 3 different polarizations in order to improve fading performance or to increase the capacity of the communication channel in a scattering environment.

Response to Arguments

Applicant's arguments filed 7/16/04 have been fully considered but they are not persuasive. Arguments by applicant and respective responses by examiner are provided in the following manner.

Argument I: Applicant, cited claim 1 as an example, argues by saying the Rich reference does not disclose, --- generating a control signal to configure the base transceiver station (BTS) to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol.

Response I: examiner respectfully disagrees with the argument; in that asserts that the Rich reference discloses a multiple access system (CDMA) which is known to generating a control signal to configure the base transceiver station (BTS) to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol. Claim 1 does not exclude this fact.

Argument II: with respect to claim 1, Applicant further argues by saying that Andrews fails to disclose or suggest the element of utilizing a plurality of electric dipole antennae and a plurality of magnetic dipole antennae, said electric dipole antennae and said magnetic dipole antennae co-located with one another at the subscriber unit to receive the selected data streams.

Response II: examiner respectfully disagrees with the argument. First, a subscriber unit receiving selected data streams would have been obvious from Rich's CDMA system)as shown in the rejection of claim 1) that utilizes the known PN code to make connection to individual subscribers. Second, Andrews (if not directly) indicates that an antenna can be constructed from three dipole elements (three electric dipoles) and three loop elements (three magnetic dipoles) (see col. 7, lines 16-30). In particular, the phrase, "an antenna need not be specifically constructed of three dipole and three loop elements in order to enjoy the advantages of wireless communication as described here." (col. 7, lines 16-18) indicates that if the need exists, such a construction is possible/obvious.

Argument III: Applicant further argues by saying that --- Andrews does not discloses or suggest the sue of six antennas (i.e., 3 electric dipole antennae and 3 magnetic dipole antennae).

Response III: examiner respectfully disagrees with the argument; in that Andrews (as discussed in response II, above) indicates/suggests the feature of argument III.

Argument IV: Applicant further asserts that Andrews and Rich fail to disclose the use of multiple electric dipole and magnetic dipole antennas co-located in a single antenna structure, as recited in claims 1 and 20.

Response IV: examiner respectfully disagrees with the argument. Again, examiner would like to refer applicant to col. 6, line 64-col. 7, line 18 of Andrews' reference, and also to response II of this section.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meless N Zewdu whose telephone number is (703) 306-5418. The examiner can normally be reached on 8:30 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (703) 308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Meless Zewdu M.Z.

Examiner

01 December 2004.

WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600